

Application No. 09/594,816

Attorney Docket No. 040071-079

REMARKS

Claims 1-19 are pending. Independent claims 1, 5, and 7 and dependent claims 2, 6, and 8 have been amended.

Claims 1, 3, 5-11, and 13-15 stand rejected for anticipation by U.S. Patent No. 2,109,761 to Warnke ("Warnke"), and claims 4 and 12 stand rejected for obviousness over Warnke. Claims 16-19 stand rejected for obviousness over a combination of Warnke and U.S. Patent No. 6,381,126 to Yosimoto ("Yosimoto"). In addition, claims 1-3, 5, and 6 stand rejected for anticipation by U.S. Patent No. 5,963,640 to Rabe ("Rabe"), and claim 2 stands rejected for obviousness over a combination of Warnke and Rabe. Claim 4 stands rejected for obviousness over Rabe.

These rejections were discussed with the Examiner during a telephone interview on June 18, 2003. The Examiner's courtesy during the interview is acknowledged with appreciation.

During the interview, Warnke and Rabe were discussed. It was agreed that Warnke does not disclose a horn impedance matched to an ear. Nevertheless, it was the Examiner's view that Rabe discloses a "horn", even if an extraordinarily inefficient one.

To address this concern, the independent claims have been amended to clarify the distinctions between Rabe's acoustical low-pass filter 34 and Applicant's acoustic horn 27. As described in Rabe, which is discussed and incorporated on page 2 of Applicant's specification, Rabe's filter is a waveguide having a varying cross-sectional area that varies in a uniform and repeating manner between maximum and minimum values. See Rabe, col. 3, l. 66 - col. 4, l. 5, and Figs. 4, 5. This provides frequency-matching between the driver and the ear, removing acoustic energy at frequencies outside the passband of the waveguide, but it does not fully provide impedance-matching as claimed. Thus, Rabe's structure would be modeled as a passive component, e.g., a damper or a spring, not as an active component, e.g., a lever, as would Applicant's acoustic horn.

Rabe's increasing and decreasing cross-sectional area is distinct from Applicant's horn, which can be seen in Fig. 3 to have a generally increasing cross-section, that is to say a cross-section that does not increase and decrease as in Rabe. It will be understood that the generally increasing cross-sectional area of

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Applicant's horn would not provide the filtering (frequency-matching) that is an aim of Rabe. See Rabe, col. 4, ll. 42-51.

Dependent claims 2, 6, and 8 have been amended to reflect the antecedent basis provided for "the large end" by the independent claims and to capture a further distinction between Applicant's horn and Rabe's waveguide, which is most clearly depicted in Figs. 4 and 5 of Rabe.

Also discussed during the interview was the unexpectedly good performance of Applicant's combination of small drivers and impedance-matched horns, such as defined by claims 4 and 12. None of the patents cited in the Action teach such combinations, which would not have been expected to operate acceptably.

Since Rabe (and Warnke) fail to teach all of the features of Applicant's claims, as amended, and since those absent features are not taught by Yosimoto, it is respectfully submitted that the claims, as amended, are patentable.

It is believed this application is now in condition for allowance. An early Notice to this effect is earnestly solicited. If the Examiner has any questions, he is invited to telephone the undersigned at the number given below.

Respectfully submitted,

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